

CLAIMS

What is claimed is:

1. An automatic vehicle exterior light control system, comprising:
an attachment member and carrier/baffle configured to secure an imager board within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis.
2. An automatic vehicle exterior light control system as in claim 1 wherein the control system is configured to self calibrate an image area of an image sensor to compensate for minor image sensor misalignment.
3. An automatic vehicle exterior light control system as in claim 1 wherein said imager board is vertically aligned within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis.
4. An automatic vehicle exterior light control system as in claim 1 wherein said imager board is horizontally aligned within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis.
5. An automatic vehicle exterior light control system as in claim 1, said attachment member further comprising a ball for attachment of a rearview mirror assembly.
6. An automatic vehicle exterior light control system as in claim 1 wherein the image sensor and at least one other device selected from the group comprising; an image sensor control logic; an A/D converter; a low voltage differential signal line driver; a temperature sensor; control output; a voltage regulator; a second image sensor; a microprocessor; a moisture sensor and a compass are integrated in a common application specific integrated chip.

7. An automatic vehicle exterior light control system as in claim 6 wherein said image sensor and said at least one other device are integrated on a common silicon wafer.
8. An automatic vehicle exterior light control system, comprising:
an attachment member and a carrier that cooperate to define an image sensor optical axis.
9. An automatic vehicle exterior light control system as in claim 8 further comprising at least one shim positioned at least partially between said attachment member and said carrier to define a second image sensor optical axis.
10. An automatic vehicle exterior light control system as in claim 8, said image sensor comprising peripheral pixels that surround pixels associated with a nominal field of view.
11. An automatic vehicle exterior light control system as in claim 10 further comprising automatic alignment means to compensate for minor image sensor optical axis misalignment.
12. An automatic vehicle exterior light control system as in claim 8, said attachment member further comprising a ball for attachment of a rearview mirror assembly.
13. An automatic vehicle exterior light control system as in claim 8 wherein the image sensor and at least one other device selected from the group comprising; an image sensor control logic; an A/D converter; a low voltage differential signal line driver; a temperature sensor; control output; a voltage regulator; a second image sensor; a microprocessor; a moisture sensor and a compass are integrated in a common application specific integrated chip.

14. An automatic vehicle exterior light control system as in claim 13 further comprising at least one shim positioned at least partially between said attachment member and said carrier to define a second image sensor optical axis.
15. An automatic vehicle exterior light control system, comprising:
a mechanical image sensor repositioning means that allows automatic and, or, manual image sensor alignment.
16. An automatic vehicle exterior light control system as in claim 15 an automatic image sensor repositioning means further comprises at least one input selected from the group comprising: a pitch sensor, a yaw sensor, a turning sensor, a breaking sensor, an acceleration sensor and a load sensor.
17. An automatic vehicle exterior light control system, comprising:
an attachment member and carrier configured to secure an imager board within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis, said attachment member and said carrier cooperate to define an image sensor optical axis; and
a mechanical image sensor repositioning means that allows automatic and, or, manual image sensor alignment.
18. An automatic vehicle exterior light control system as in claim 17 wherein the image sensor and at least one other device selected from the group comprising; an image sensor control logic; an A/D converter; a low voltage differential signal line driver; a temperature sensor; control output; a voltage regulator; a second image sensor; a microprocessor; a moisture sensor and a compass are integrated in a common application specific integrated chip.
19. An automatic vehicle exterior light control system as in claim 18 further comprising at least one shim positioned at least partially between said attachment member and said carrier to define a second image sensor optical axis.

20. An automatic vehicle equipment control system, comprising:
an attachment member and carrier configured to secure an imager board within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis, said attachment member and said carrier cooperate to define an image sensor optical axis.
21. An automatic vehicle equipment control system as in claim 20 wherein the image sensor and at least one other device selected from the group comprising; an image sensor control logic; an A/D converter; a low voltage differential signal line driver; a temperature sensor; control output; a voltage regulator; a second image sensor; a microprocessor; a moisture sensor and a compass are integrated in a common application specific integrated chip.
22. An automatic vehicle equipment control system as in claim 21 further comprising at least one shim positioned at least partially between said attachment member and said carrier to define a second image sensor optical axis.
23. An automatic vehicle equipment control system as in claim 20 further comprising at least one device selected from the group comprising: an electro-optic mirror element; an ambient light sensor; a glare light sensor; an information display; an indicator; a microphone; a compass; an operator interface; a temperature indicator; a Bluetooth interface; a wireless transceiver; a vehicle bus interface; a passenger side restraint status display and an electro-optic mirror element control.